# NONINDUSTRIAL TIMBER MANAGEMENT PLANS IN CALIFORNIA

**Report to the Legislature**

**by**

**California Department of Forestry and Fire Protection**

**October 2003**

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## BACKGROUND

The guiding principles for management of California's state and private forest lands are stated in the Z'berg-Nejedly Forest Practice Act of 1973 (FPA), where the State Legislature has declared that "*it is the policy of this state to encourage prudent and responsible forest resource management calculated to serve the public's need for timber and other forest products, while giving consideration to the public's need for watershed protection, fisheries and wildlife, and recreational opportunities alike in this and future generations" (Public Resources Code §4511 et seq*.). In 1989, the Legislature added language to the FPA creating provisions for a Non-Industrial Timber Management Plan (NTMP) to promote long term management and planning on forest ownerships of 2,500 acres or less (Public Resources Code (PRC) §4593 et seq.). This report has been prepared in response to a requirement that the California Department of Forestry and Fire Protection (CDF) provide the Legislature with an evaluation of *"… whether the objectives of unevenaged management and sustained yield are being met…"* on NTMPs (FPA Article 7.5(c)).

## INTRODUCTION

Forestry has been part of the American landscape since the first English settlers reached the dense woods of New England. Forests were abundant and wood was needed for homes, heat, charcoal for steel, and fuel for boilers. As settlers moved west, they eventually reached the Pacific seaboard with its towering conifer timberlands of fir, pine, cedar, and sequoia. With such large volumes of timber at their disposal, ideas about sustainable timber management and forest conservation were not raised in California until 1885, when the Legislature began to inquire into forest conditions and moved to create a state forest agency.

Today, much has changed on California's forest landscape. The vast expanses of open forest found by early pioneers have been split by property lines and divided into ownerships subject to different degrees of protection, management and conversion. The boundaries of the publicly owned federal forest lands – the National Parks, National Forests, and Bureau of Land Management ownerships – have largely stabilized except for minor land trades to adjust borders. California's State Parks continue to grow with purchases to protect ecologically significant stands of old growth, for habitat protection, and for public recreation. Combining the federal, state, and local government forestlands, over 9.2 million acres of California's timberlands are in public ownership (Table 1).

Private forest lands have less stable ownership. California's growing population has placed forestland owners under constant pressure to break large parcels into smaller fragments for home sites, roads and commercial centers. As a result, the cherished image of broad forested

spaces, wildlife habitat and absorbent forest soils supplying water to distant urban communities is being incrementally lost as human activities intensify on the landscape and private forest lands are converted to other uses. The larger ownerships of private commercial forestlands have been consolidated into a small number of timber companies, most of which are family-owned and not publicly traded. The diversity of industrial owners has dramatically declined since the 1970's as the cost and uncertainty of timber management in California has increased.

Private forestlands are generally classified into non-industrial and industrial ownerships based on acreage and association with industrial uses. Non-industrial private forest (NIPF) owners typically have less than 5,000 acres of forest land and do not own a mill. Of the 7.4 million acres of private forestlands in California, NIPF owners collectively hold about 3.2 million acres (41%), with the balance being held by industrial forest landowners, as summarized in Table 2.

Although data on smaller forestland ownerships is difficult to obtain, it is estimated that there are about 314,200 non-industrial private forest landowners in California. Some of these properties were settled in the 1800's and have been owned by the same family for several generations. Many were purchased more recently by new owners wishing to escape urban sprawl and live in a more rural setting. Some heavily logged timberland has been purchased by new owners for the specific purpose of restocking the stands and managing them sustainably.

Harvesting on these timberlands often provides an essential source of income for the landowners. Even owners who do not depend on timber income find that some harvesting is needed to maintain forest health, manage unnatural fuel accumulations, and maintain a natural species distribution. All forest landowners, however, are increasingly challenged by the expense and time required to obtain the permits required for timber harvesting. The increasing cost of regulation often means that more timber has to be cut than was originally planned to offset the expense of preparing documents needed to comply with state and federal laws. Sometimes, the high regulatory costs and long time frames associated with permitting timber harvesting forces an owner who needs cash to sell or convert the land to more profitable uses.

With its favorable climate and fertile forest soils, California contains some of the most productive forestlands in the nation. To retain and improve these timberlands, the state offers several incentive programs to encourage sustainable forest management. These include:

- For all private timberland owners whose lands qualify, the *Timberland Production Zone (TPZ)* provides a property tax incentive to manage forest lands for timber production. Such lands must be devoted to and used for growing and harvesting timber and compatible uses. Approximately 77% of the 7.4 million acres of private forestlands is zoned TPZ.

- For non-industrial landowners, the *California Forest Improvement Program (CFIP*) provides up to a 75% reimbursement for reforestation, soil and water protection and improvement, and wildlife habitat enhancement in concert with development of a forest management plan. The reimbursement may increase to 90% for rehabilitation work following natural disasters, such as wildfire. The funds for supporting this program come from the Forest Resources Investment Fund (FRIF) derived from sustainable harvesting on the state's demonstration forests.

- The *Forest Legacy program* supports use of conservation easements on private forestlands that are at risk of being converted to non-forest uses. These easements allow the landowner to sell development rights to a government agency while still being able to sustainably manage their forestland. Legacy funds are allocated to the states through the "State and Private Forestry" program of the US Forest Service, and the State may match federal distributions with bond funds.

- The *Non-Industrial Timber Management Plan* (NTMP) allows smaller NIPF timberland owners to prepare a long term management plan that reduces regulatory time and expense by providing an alternative to filing individual timber harvesting plans (THPs). In exchange, landowners agree to manage their forests through uneven-aged management and long-term sustained yield.

## THE PRACTICE OF FORESTRY ON NON-INDUSTRIAL PRIVATE FOREST LANDS

There is a great potential for improved forest conditions and sustainable production on NIPF lands in California. Much of the forested ranchland in northcoastal California, for example, was heavily logged around the 1950's in response to the pre-1976 ad valorem tax system, in which timber reaching 40 years old became taxable. To remove it from the tax rolls, lands were heavily harvested using heavy equipment and damaging techniques that are illegal today. Logs were dragged downslope to streamcourses, and tractors drove up the streams to take them out. Bridges were built by piling dirt over stacks of logs in the channel. Road systems were purposely designed through and along the streams, not along ridges. The severe floods of the 1950's and 1964 activated landslides and further eroded creeks and gullies to their headwaters.

The forests on many of these lands have now regrown, but timber stand improvement to convert brush back to conifers is still needed on many acres. Many of the severe erosion sites have restabilized and stream transport processes continue to move old sediment deposits out of the system. The remaining legacy impacts to the streams and roads are the focus of active restoration efforts today, and current forest practice rules prevent the abuses of the past. The ability to harvest often provides the income to accelerate road and stream repair, and because equipment is already onsite, provides the economy of scale to accomplish substantial restoration projects.

Since their inception 13 years ago, the number of NTMPs has increased steadily as landowners decide that the major front-end costs of developing a property-wide management plan and committing to its constraints is worth the investment. In exchange for a commitment to comply with a comprehensive forest management plan and practice uneven-aged silviculture, the small landowner receives a higher degree of regulatory surety that their management can be continued, and is exempted from requirements to submit individual Timber Harvest Plans (THPs) each time a harvest occurs. Similarly, the state receives benefit in that these long-term

commitments help to protect and restore California's forest lands, retain rural lifestyles, and meet the goals of encouraging prudent and responsible forest resource management.

Basic information about NIPF ownerships is summarized below, and is given in more detail in Table 2. It should be noted that data on NIPF ownership numbers is limited. In general, of the 3.2 million acres of non-industrial land, only around 210,000 acres, or 6.6% is under NTMPs.

- Total timberland area in California = 16.6 million acres. (Federal, State, and Private)
- Total private timberland area = 7.4 million acres (45% of all timberlands in California).
- Total NIPF area = 3.2 million acres (44% of private timberlands and 19.5% of all timberlands in California).
- Number of approved NTMPs as of December 31, 2002 = 466.
- Area with approved NTMPs as of December 31, 2002 = 210,028-acres (6.6% of total NIPF ownership area).
- NIPF net annual conifer growth rate = 2.3% (compared to 2.7% on industrial private timberlands).

Average size of an approved NTMP is 470 acres. The range is 5-2,500 acres.

**Table 1: California Forest Land Ownership – Public Ownership Area (from Waddell and Bassett 1997)**

| Resource Areas | Timberland Area | |
|---|---|---|
| | (1000 ac.) | (percent) |
| North Coast | 675 | 7.3 |
| Northern Interior | 3,669 | 39.8 |
| Sacramento | 2,635 | 28.6 |
| San Joaquin/South | 2,173 | 23.6 |
| Central Coast | 61 | 0.7 |
| California Total | 9,213 | 100.0 |

**Table 2: California Forest Land Ownership – Private Ownership Area (from Waddell and Bassett 1997)**

| Resource Areas | Ownership Class | | | | | |
|---|---|---|---|---|---|---|
| | Industry | | NIPF | | Total | |
| | (1000 ac.) | (percent) | (1000 ac.) | (percent) | (1000 ac.) | (percent) |
| North Coast | 1,402 | 18.9 | 1,336 | 18.0 | 2,738 | 36.8 |
| Northern Interior | 1,717 | 23.1 | 559 | 7.5 | 2,276 | 30.6 |
| Sacramento | 911 | 12.2 | 752 | 10.1 | 1,663 | 22.4 |
| San Joaquin/South | 146 | 2.0 | 369 | 5.0 | 515 | 6.9 |
| Central Coast | 22 | 0.3 | 223 | 3.0 | 245 | 3.3 |
| California Total | 4,198 | 56.4 | 3,239 | 43.6 | 7,437 | 100.0 |

## BENEFITS AND COSTS OF NTMPS

The California regulatory environment imposes higher costs on both industrial and NIPF landowners than any other state. The Forest Practice Act requires the preparation of a timber harvesting plan (THP) by a Registered Professional Forester (RPF), with subsequent review and approval by public agencies before a landowner can harvest timber. This results in numerous fixed and variable costs that typically must be paid prior to timber harvesting, with no assurance of agency approval. The timeline for THP preparation, review, and approval can vary from months to more than a year depending on the types of issues that need to be addressed.

By the time it is approved, a THP will typically cost between $6,000 and $35,000, based on variables such as the size of the area being harvested and the number of forest resource issues that need to be included. Once approved, a standard THP has a lifespan of three years and, under certain conditions, may be extended for an additional two years, which provides a maximum life of five years. The high initial cost and limited effective period of THPs combined with concerns about greater regulatory restrictions and expenses in the future does not provide an incentive for NIPF owners to plan for, or practice, long-term management of their timberlands, and adds to the pressure to convert timberlands to other uses, ranging from rural housing to vineyards, golf courses and retail centers.

The NTMP program offers a solution to many of these problems. The cost of preparing an NTMP is about 25 to 50% more than a typical THP, much of which comes from the required sustained yield analysis. However, this cost is recaptured over time because subsequent NTMP harvest entries can be conducted under a much simpler notice to CDF, which triggers the inspection and enforcement process. In addition -- except for certain important conditions discussed in the next section -- the Forest Practice Rules that are applied to these harvests are fixed to the Rules in place at the time when the NTMP is approved. This gives landowners both relief from the high cost of future THPs and a greater level of regulatory certainty, which in turn reduces the pressure to maximize short-term harvest intensity.

The assessment of timber stand conditions and plans for future harvesting required in the NTMP provides an opportunity to analyze investment intensities and productivity levels that landowners can use to improve long term productivity and income. The relative ease of initiating timber harvesting operations under an NTMP also gives landowners flexibility to take advantage of peaks in the timber market. For example, in 1999 redwood sold for a high of $1,650 per thousand board feet, but for the two years before and after 1999, prices ranged from $800 to $1,000. Additional income derived from market flexibility gives landowners more capital for projects to enhance productivity and improve forest health, including wildlife habitat and watershed values. Higher returns on investments also provide landowners with a greater buffer to absorb costs from unforeseen events that might otherwise lead to forced selling of the property.

## NTMP REQUIREMENTS

The Z'berg-Nejedly Forest Practice Act and related Forest Practice Rules allow NIPF landowners with less than 2,500 acres of timberland to submit a NTMP. The statute and regulations for NTMPs mandate the use of uneven-aged management to achieve a sustained yield of forest products. In exchange for the cost of creating a long-term management plan and commitment to using uneven-aged management, timberland owners are guaranteed regulatory certainty that comes in the form of: (1) not having to prepare individual Timber Harvesting Plans, (2) pre-approval of future harvesting that allows timber operations to commence on the same-day that a notice of operations is filed with CDF; and (3) "sheltering" the NTMP from subsequent rule changes by tying operations on the NTMP to the Forest Practice Rules that were in effect at the time the plan was approved -- except for certain overriding conditions. This regulatory guarantee is provided in PRC §4593, Legislative findings and declaration, which states:

> "(c) The Legislature further finds and declares that it is the policy of the state to encourage prudent and responsible forest resource management of non-industrial timberlands by approving non-industrial timber management plans in advance and withdrawing governmental discretion to disapprove non-industrial timber harvest notices submitted pursuant to the approved non-industrial timber management plans."

And by PRC §4593.8, which requires that:

> "… any amendment to the plan shall be judged for compliance with the rules and regulations of the board and the provisions of the Forest Practice Act that were in effect at the time the NTMP was approved."

This does not mean, however, that a NTMP will never be subject to new laws or regulations. PRC §4594 (h) requires that RPFs submit before yearly operations a Notice of Operations certifying that operations conducted under the NTMP either (1) implement best management practices for the protection of water, soil stability, forest productivity, and wildlife, as required by the current rules of the Board, or (2) are consistent with the original plan and will not result in any significant degradation to the beneficial uses of water, soil stability, forest productivity or wildlife. If the RPF cannot make this certification, then changes to the NTMP must be made. For example, when new species have been listed for protection, harvesting on previously approved NTMPs must address the resulting new protection measures. Similarly, changes in the landscape that change its erosion potential would need to be mitigated to provide additional water quality protection.

Because of its regulatory advantages and long term cost savings, NTMPs are now used by many small timberland owners to manage their forestland. The program began with approval of three plans in 1991, and has steadily increased to a high of 75 plans being approved in 2000. From 1991 through 2001, a total of 466 plans covering 210,028-acres have been approved. A discussion of data trends state-wide and by each of the three Forest Practice Districts is presented in Appendix A.

## IS THE OBJECTIVE OF UNEVEN-AGED MANAGEMENT BEING MET?

Each NTMP landowner is required to show how their proposed timberland management will comply with the objective of uneven-aged silviculture. CDF requires that all management prescriptions be spelled out in sufficient detail to show how they produce and/or maintain a balanced, uneven-aged stand structure. Plans for forestlands that already have an uneven-aged structure are required to demonstrate how this will be maintained, and stands having a single- or a two-aged class structure are required to provide treatments that will ultimately produce a multi-aged class structure. The NTMP "blueprint" is scrutinized during the field review. CDF inspectors make site visits to each major stand type, including those that may not currently be in an uneven-aged structure to review the plan's prescriptions for developing an uneven-aged stand. Following harvest, CDF inspectors return to review the residual stand for compliance with the plan. Additionally, with the progression in the harvest schedule, the RPF is required in the Notice of Operations, to certify that the pending operations are in conformance with the original NTMP. CDF inspectors then conduct follow-up inspections to determine compliance with the approved plan. As a result of this pre- and post-harvest scrutiny, CDF ensures that implementation of each NTMP is meeting the requirement for uneven-aged management. Appendix B includes a presentation of the regulatory statutes that specify and define uneven-aged management for NTMPs. CDF has not found any approved NTMPs in violation of this requirement. Therefore, the requirement for using uneven-aged management in NTMPs is being achieved.

## IS THE OBJECTIVE OF SUSTAINED YIELD BEING MET?

Over the twelve years (1991-2002) of the NTMP program, 77% of landowners holding NTMPs have begun to implement management prescriptions across their forestlands. However, 58% of landowners have averaged 1 harvest or less. This brief period and lack of harvest activity over a large percent of the property does not provide sufficient information to evaluate the effects of NTMP management on overall stand growth, and more time is needed before a definitive conclusion about the performance of sustained yield requirements can be reached. However, the management prescriptions included in approved NTMPs do indicate that sustained yield objectives will be achieved.

The Board of Forestry and Fire Protection has provided two options for demonstrating maximum sustained production in a NTMP. The “Option B” (14 CCR §913.11(b) standard requires “providing sustainable harvest yields” over a 100-year planning horizon to support the long-term sustained yield of timber products selected by the landowner. Alternatively, the “Option C” standards (14 CCR §913.11 (c)) require an analysis to that point in time when growth and harvest are in balance, along with provisions that the residual stand following each harvest has been maintained in seed trees of various sizes and densities across each acre of land. These are further described in Appendix B. Both options require similar descriptions of stands and site conditions, management objectives, and proposed management activities to achieve the management objectives, and both must provide protection for other resources. In addition,

CDF's evaluation of the NTMP must ensure that the plan is consistent with the principles of uneven-aged management specified in the Forest Practice Act (PRC §4593.2(c)).

The management plans for many approved NTMPs have projected the growing of larger trees and building of timber inventory. As these approved plans enter their second cutting cycle, landowners and CDF will begin to evaluate whether the plan is on course for meeting the original growth and sustained yield goals. Appendix B provides a summary of the regulatory statutes that specify and define sustained yield for NTMPs.

## STATE AND PUBLIC BENEFITS OF NTMPS

In addition to the benefits of NTMPs that accrue to the landowner in terms of saving time and cost, and providing greater regulatory certainty, benefits also accrue to the state and public from having landowners take a comprehensive, property-wide view of their forestland. Implementation of a NTMP necessitates the periodic re-assessment of inventory and growth to allow CDF to assess actual growth with that projected in the original analysis. The NTMP also stimulates more comprehensive cumulative impact assessment on watersheds and wildlife because future actions on the entire property are included in the analysis. Road systems can be assessed on a property-wide basis, and plans laid out as to where and when repairs of legacy problems from past timber operations will be made. This comprehensive view provides better assurance to the state and public that forest sustainability on these small parcels will be achieved, and impacts reduced.

The state also benefits from reduced regulatory costs to CDF and other Review Team agencies. Although more time may be invested in the up-front review of the NTMP, this is soon offset by not having to process individual THPs each time the property is entered. The inspections and enforcement of timber operations do not differ however, and are triggered each time a Notice of Operation is filed.

Retaining our non-industrial private forest lands in forest use provides tremendous societal and economic benefits, including retention of open space, protection of watersheds, water quality and forest soils, maintenance of diverse habitat for fish and wildlife, preservation of important cultural and historical sites, and promotion of recreational opportunities. Economic benefits include wood products from sustainable sources, income for timber owners, and jobs for employees and contractors working to harvest, transport, and process forest products. Sales by local businesses of equipment used for the management of forest lands; and the profits of manufacturers, wholesalers, and retailers of forest products – which are then converted into houses, commercial buildings and consumer products -- generate much additional economic activity. These benefits are all enhanced by the commitment of forest landowners to the long term stewardship and sustainable production requirements of a NTMP.

On the broad statewide scale, the overarching public benefit is in encouraging owners of these small wooded parcels to take advantage of their rich forest soils, to enrich and improve their timber stands, to manage them sustainably into the future, and cumulatively retain that part of the state's rural, working landscape that characterizes California's private timberlands.

## CONCLUSIONS AND RECOMMENDATIONS

The Non-Industrial Timber Management Plan program has become an important timber management tool for qualifying NIPF landowners, and its use is growing each year. In exchange for committing to a long-term program of uneven-aged management and sustained yield, a NTMP offers the benefits of: reduced plan preparation costs for subsequent notices of timber operations; commencement of harvesting on the same day that the notice of operations is submitted to take advantage of market fluctuations; and greater regulatory certainty by committing to -- with some important exceptions -- the Forest Practice Rules that are in place when the NTMP is approved.

A "non-industrial tree farmer" is defined in the Forest Practice Act as a timberland owner with *less than 2,500-acres* and who *is not primarily engaged in the manufacture of forest products* (PRC §4593.2(b)). Unfortunately, the 2,500 acre limitation excludes 20 percent of the NIPF area (based on ownership area reported by Birch (1977)). Raising this acreage limitation would increase the number of landowners and area that could utilize NTMPs. For example, increasing the ownership limit to 5,000 acres would make an additional 562,000 acres eligible for NTMPs allowing most of the NIPF acres to be available for the NTMP program. This change would benefit both landowners and the state by providing an opportunity for these additional timberlands to be placed into a sustained yield and uneven-aged management regime.

The NTMP program is meeting the uneven-aged management requirement of the Forest Practice Act (PRC §4593.2(e)). Given sufficient time to implement current NTMP management prescriptions, landowners will also be able to show that they are meeting the sustained yield requirement. Therefore, CDF has determined that the NTMP program is improving California's timberlands and recommends that the program be continued.

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# APPENDIX A
## Data Trends In The NTMP Program

Table A1 shows that state-wide, totals of NTMPs having been approved has increased every year since 1991, with a sharp increase in 1999. This indicates that both Registered Professional Foresters and their clients have found the NTMP program to be a useful vehicle for timber management. Of the 466 approved NTMPs that span over 210,000 acres, 77% of the plans have submitted 1 or more Notice Of Timber Operations.

**Table A1. Statewide Totals Of NTMPs Approved For Years 1991-2002**

| Year | NTMPs Approved | Acres Represented | Notice of Operations |
|---|---|---|---|
| 1991 | 3 | 1,834 | 1 |
| 1992 | 8 | 6,893 | 6 |
| 1993 | 17 | 7,516 | 13 |
| 1994 | 21 | 14,660 | 25 |
| 1995 | 21 | 6,304 | 41 |
| 1996 | 39 | 19,927 | 71 |
| 1997 | 53 | 15,547 | 86 |
| 1998 | 41 | 25,079 | 115 |
| 1999 | 65 | 38,049 | 148 |
| 2000 | 75 | 26,714 | 170 |
| 2001 | 63 | 21,110 | 127 |
| 2002 | 60 | 26,395 | 121 |
| **TOTAL** | **466** | **210,028** | |

Table A2 lists numbers of NTMPs approved by year and county for the Coast, Northern and Southern Forest Districts respectively. Humboldt and Mendocino counties have the highest numbers of NTMPs and this trend seems to be continuing. In the Northern Forest District, Shasta County has the largest number of NTMPs, with Siskiyou County second. In the Southern Forest Practice District Tuolumne County has the highest number of approvals. The current downturn in numbers approved in the past several years may be due to a depressed log markets and increased costs for Registered Professional Foresters. Landowners will be less likely to invest in a more expensive management plan during a period of lower prices. Table A3 lists approved NTMPs by Forest Practice District, and Figure A1 shows cumulative NTMP acres approved by year for each Forest Practice District.

## Table A2. Non-industrial Timber Management Plan Approval by Year and County

| Coast Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Plans** | **Acres** |
| **1991** | Mendocino | 1 | 28 |
| | **Totals** | **1** | **28** |
| **1992** | Humboldt | 1 | 382 |
| | Mendocino | 3 | 4,332 |
| | Santa Cruz | 1 | 620 |
| | **Totals** | **5** | **5,334** |
| **1993** | Humboldt | 5 | 1,711 |
| | Mendocino | 6 | 2,932 |
| | **Totals** | **11** | **4,643** |
| **1994** | Humboldt | 3 | 5,598 |
| | Lake | 1 | 635 |
| | Mendocino | 6 | 2,586 |
| | Santa Cruz | 1 | 100 |
| | Trinity | 1 | 160 |
| | **Totals** | **12** | **9,079** |
| **1995** | Humboldt | 7 | 3,511 |
| | Mendocino | 3 | 547 |
| | Santa Cruz | 1 | 52 |
| | **Totals** | **11** | **4,110** |
| **1996** | Humboldt | 14 | 8,601 |
| | Mendocino | 5 | 931 |
| | Napa | 1 | 1,351 |
| | Santa Cruz | 1 | 107 |
| | San Mateo | 1 | 907 |
| | Sonoma | 4 | 1,802 |
| | **Totals** | **26** | **13,699** |
| **1997** | Del Norte | 1 | 284 |
| | Humboldt | 18 | 6,631 |
| | Lake | 1 | 232 |
| | Mendocino | 21 | 5,606 |
| | Santa Cruz | 2 | 287 |
| | Sonoma | 2 | 359 |
| | **Totals** | **45** | **13,399** |
| **1998** | Humboldt | 18 | 9,250 |
| | Mendocino | 13 | 9,135 |
| | Santa Clara | 1 | 2,350 |
| | Sonoma | 2 | 2,392 |
| | **Totals** | **34** | **23,127** |
| **1999** | Humboldt | 25 | 16,365 |
| | Lake | 2 | 2,339 |
| | Mendocino | 14 | 7,849 |
| | Santa Cruz | 3 | 1,059 |
| | San Mateo | 1 | 88 |
| | Sonoma | 1 | 40 |
| | Trinity | 2 | 843 |
| | **Totals** | **48** | **28,583** |
| **2000** | Humboldt | 28 | 12,165 |
| | Mendocino | 23 | 5,282 |
| | Santa Cruz | 4 | 436 |
| | San Mateo | 1 | 244 |
| | Sonoma | 4 | 1,218 |
| | Trinity | 2 | 1,578 |
| | **Totals** | **62** | **20,923** |
| **2001** | Humboldt | 15 | 4,854 |
| | Mendocino | 26 | 7,627 |
| | Napa | 1 | 133 |
| | Santa Cruz | 4 | 1,019 |
| | Sonoma | 4 | 1,125 |
| | Trinity | 3 | 1,692 |
| | **Totals** | **53** | **16,450** |

| Northern Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Plans** | **Acres** |
| **1991** | Shasta | 1 | 250 |
| | Sierra | 1 | 1,556 |
| | **Totals** | **2** | **1,806** |
| **1992** | Shasta | 1 | 682 |
| | Siskiyou | 1 | 595 |
| | Yuba | 1 | 282 |
| | **Totals** | **3** | **1,559** |
| **1993** | Butte | 1 | 473 |
| | Placer | 1 | 520 |
| | Shasta | 1 | 1,196 |
| | **Totals** | **3** | **2,189** |
| **1994** | Butte | 1 | 27 |
| | Placer | 1 | 439 |
| | Shasta | 3 | 4,318 |
| | Trinity | 2 | 607 |
| | **Totals** | **7** | **5,391** |
| **1995** | Butte | 1 | 440 |
| | Shasta | 4 | 378 |
| | Siskiyou | 3 | 876 |
| | **Totals** | **8** | **1,694** |
| **1996** | Glenn | 1 | 1,160 |
| | Lassen | 2 | 1,757 |
| | Shasta | 5 | 1,603 |
| | Siskiyou | 3 | 785 |
| | **Totals** | **11** | **5,305** |
| **1997** | Shasta | 1 | 42 |
| | Sierra | 1 | 750 |
| | Siskiyou | 2 | 894 |
| | Trinity | 2 | 172 |
| | **Totals** | **6** | **1,858** |
| **1998** | Lassen | 1 | 98 |
| | Shasta | 1 | 365 |
| | Sierra | 1 | 21 |
| | Siskiyou | 1 | 362 |
| | **Totals** | **4** | **846** |
| **1999** | Butte | 2 | 630 |
| | Plumas | 2 | 2,243 |
| | Shasta | 3 | 631 |
| | Siskiyou | 1 | 40 |
| | Tehama | 1 | 84 |
| | **Totals** | **9** | **3,628** |
| **2000** | Butte | 1 | 152 |
| | Shasta | 2 | 2,113 |
| | Siskiyou | 1 | 427 |
| | Yuba | 3 | 752 |
| | **Totals** | **7** | **3,444** |
| **2001** | Butte | 1 | 156 |
| | Lassen | 1 | 386 |
| | Nevada | 1 | 383 |
| | Shasta | 1 | 1,760 |
| | Sierra | 1 | 352 |
| | Siskiyou | 2 | 1,344 |
| | **Totals** | **7** | **4,381** |

| Southern Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Plans** | **Acres** |
| **1991** | | 0 | 0 |
| | **Totals** | **0** | **0** |
| **1992** | | 0 | 0 |
| | **Totals** | **0** | **0** |
| **1993** | El Dorado | 1 | 164 |
| | Fresno | 1 | 360 |
| | Tulare | 1 | 160 |
| | **Totals** | **3** | **684** |
| **1994** | Mariposa | 1 | 150 |
| | Tuolumne | 1 | 40 |
| | **Totals** | **2** | **190** |
| **1995** | El Dorado | 1 | 80 |
| | Tuolumne | 1 | 420 |
| | **Totals** | **2** | **500** |
| **1996** | Calaveras | 1 | 413 |
| | El Dorado | 1 | 510 |
| | **Totals** | **2** | **923** |
| **1997** | Madera | 2 | 290 |
| | **Totals** | **1** | **290** |
| **1998** | Calaveras | 1 | 872 |
| | Tuolumne | 2 | 234 |
| | **Totals** | **3** | **1,106** |
| **1999** | Calaveras | 1 | 282 |
| | El Dorado | 1 | 624 |
| | Fresno | 1 | 1,070 |
| | Madera | 1 | 628 |
| | Tulare | 1 | 1,540 |
| | Tuolumne | 3 | 1,694 |
| | **Totals** | **8** | **5,838** |
| **2000** | Amador | 1 | 160 |
| | Calaveras | 1 | 1,441 |
| | El Dorado | 2 | 165 |
| | Madera | 1 | 40 |
| | Tuolumne | 1 | 541 |
| | **Totals** | **6** | **2,347** |
| **2001** | Amador | 1 | 128 |
| | El Dorado | 2 | 151 |
| | **Totals** | **3** | **279** |

**Table A2 (continued). Non-industrial Timber Management Plan Approval By Year And County**

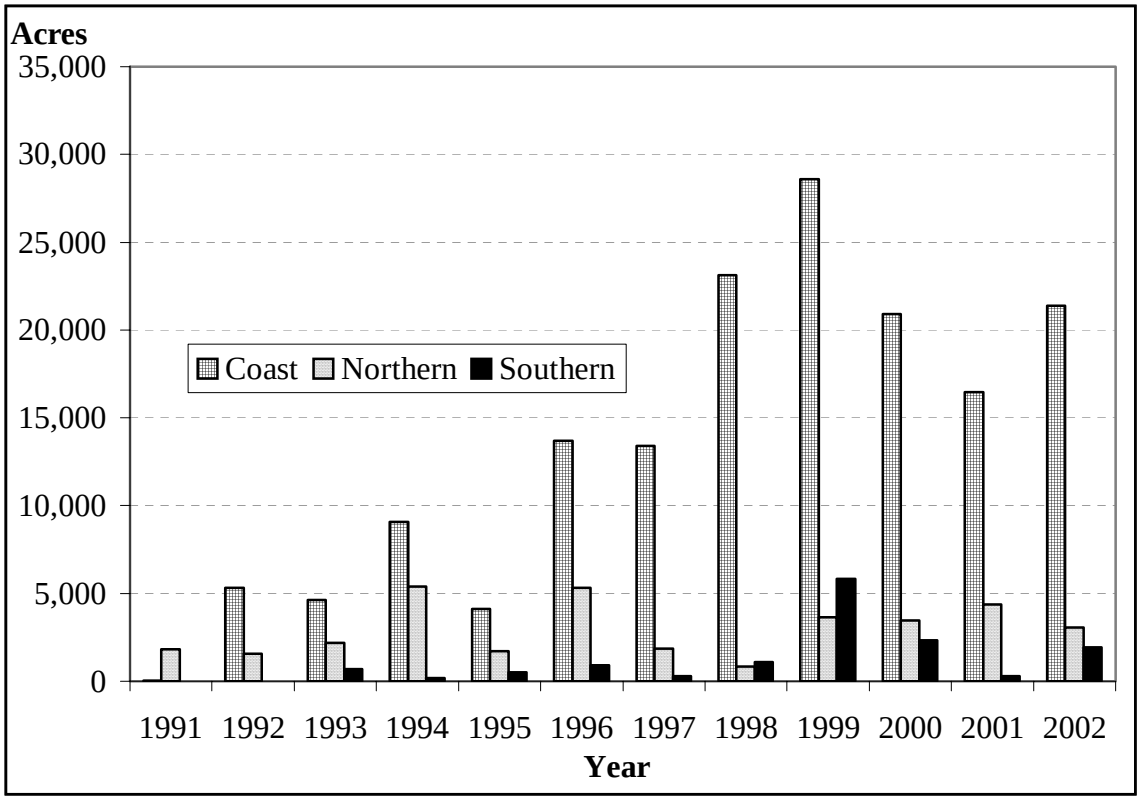
| Coast Forest District | | | | Northern Forest District | | | | Southern Forest District | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **County** | **Plans** | **Acres** | **Year** | **County** | **Plans** | **Acres** | **Year** | **County** | **Plans** | **Acres** |
| **2002** | Humboldt | 25 | 15,175 | **2002** | Lassen | 1 | 950 | **2002** | Amador | 1 | 10 |
| | Lake | 1 | 104 | | Nevada | 1 | 227 | | Calaveras | 1 | 194 |
| | Mendocino | 13 | 4,810 | | Shasta | 1 | 72 | | El Dorado | 3 | 1,419 |
| | Santa Cruz | 2 | 450 | | Siskiyou | 1 | 147 | | Tuolumne | 1 | 320 |
| | Sonoma | 2 | 401 | | Tehama | 2 | 1,351 | | **Totals** | **6** | **1,943** |
| | Trinity | 2 | 451 | | Trinity | 3 | 314 | | | | |
| | **Totals** | **45** | **21,391** | | **Totals** | **9** | **3,061** | | | | |

**Table A3. Cumulative Totals Of Non-industrial Timber Management Plans Approved By Forest Practice District**

| Totals By | Plans | Acres |
|---|---|---|
| **Coast** | **353** | **160,766** |
| **Northern** | **76** | **35,162** |
| **Southern** | **37** | **14,100** |
| **State** | **466** | **210,028** |

As seen in Figure A1, below, the Coast Forest District contains the largest number of acres under NTMPs.

**Figure A1: Cumulative NTMP Acres Approved By Year For Each Forest Practice District.**



There are several possible explanations for greater use of NTMPs in the Coast District:

- A majority of privately held forestland occurs in the Coast District.

- The generally higher productivity of timber sites in the Coast District encourages forest management by non-industrial forestland owners.

- Higher volume and value per acre allows less intense harvesting for preparation of a management plan.

- The greater amount of public debate about timber harvesting in the Coast Forest Practice District may have heightened concerns by landowners that future Forest Practice Regulations will make forest management prohibitively expensive or prohibit timber harvesting on significant portions of private ownerships.

- Redwoods forests in the Coast District regenerate readily from sprouting and are more tolerant to shady environments, while the more valuable and productive conifer species in areas outside of the redwood region (i.e. ponderosa pine, sugar pine, Douglas-fir) require more open, sunny environments to regenerate by seed, making them less amenable to single-tree and group selection prescriptions required by uneven-aged management in NTMPs.

- The past harvest history and suppression of wildfire have converted many inland landscapes once dominated by pine to a significantly higher composition of the more shade-tolerant cedar and true firs, which results in lower productivity and harvest values on many sites and makes the cost of sustained yield planning less attractive.

Other factors may have also contributed to this skewed distribution of NTMPs. However, higher timber values and per acre yields are the most likely cause and will continue to ensure that the coastal counties have the highest numbers of NTMP submissions.

Table A4 lists the number of Notices of Timber Operation submissions, and the same trend was noted as with NTMP approvals, where most of the Notices were submitted in Humboldt and Mendocino Counties.

## Table A4. NTMP Notice Of Timber Operations By Year Submitted.

| Coast Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Notices** | **Acres** |
| **1991** | Mendocino | 1 | 28 |
| | Total | **1** | **28** |
| **1992** | Mendocino | 3 | 289 |
| | Total | **3** | **289** |
| **1993** | Mendocino | 7 | 1,245 |
| | Total | **7** | **1,245** |
| **1994** | Humboldt | 7 | 1,321 |
| | Lake | 1 | 635 |
| | Mendocino | 10 | 2,651 |
| | Total | **18** | **4,607** |
| **1995** | Humboldt | 9 | 2,116 |
| | Lake | 4 | 2,540 |
| | Mendocino | 10 | 1,700 |
| | Santa Cruz | 2 | 152 |
| | Total | **25** | **6,508** |
| **1996** | Humboldt | 21 | 5,080 |
| | Lake | 2 | 1,270 |
| | Mendocino | 24 | 3,475 |
| | Napa | 1 | 1,351 |
| | San Mateo | 1 | 114 |
| | Sonoma | 1 | 106 |
| | Total | **50** | **11,396** |
| **1997** | Humboldt | 29 | 4,523 |
| | Lake | 1 | 635 |
| | Mendocino | 27 | 2,424 |
| | Napa | 1 | 1,351 |
| | Santa Cruz | 3 | 99 |
| | Sonoma | 6 | 602 |
| | Trinity | 1 | 112 |
| | Total | **68** | **9,746** |
| **1998** | Del Norte | 1 | 284 |
| | Humboldt | 35 | 7,757 |
| | Lake | 1 | 635 |
| | Mendocino | 49 | 5,993 |
| | Napa | 1 | 250 |
| | Santa Cruz | 2 | 40 |
| | Sonoma | 4 | 220 |
| | Total | **93** | **15,814** |
| **1999** | Humboldt | 50 | 11,727 |
| | Lake | 2 | 220 |
| | Mendocino | 51 | 6,298 |
| | Napa | 1 | 90 |
| | Santa Mateo | 1 | 40 |
| | Santa Clara | 1 | 130 |
| | Santa Cruz | 5 | 400 |
| | Sonoma | 6 | 791 |
| | Trinity | 1 | 320 |
| | Total | **118** | **20,016** |

| Northern Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Notices** | **Acres** |
| **1991** | | | |
| | Total | **0** | **0** |
| **1992** | Nevada | 1 | 429 |
| | Shasta | 1 | 274 |
| | Siskiyou | 1 | 120 |
| | Total | **3** | **823** |
| **1993** | Butte | 1 | 1,317 |
| | Placer | 1 | 347 |
| | Shasta | 1 | 264 |
| | Siskiyou | 1 | 60 |
| | Yuba | 1 | 112 |
| | Total | **5** | **2,100** |
| **1994** | Butte | 1 | 1,317 |
| | Placer | 1 | 439 |
| | Sierra | 1 | 300 |
| | Siskiyou | 2 | 100 |
| | Yuba | 1 | 40 |
| | Total | **6** | **2,196** |
| **1995** | Butte | 1 | 1,317 |
| | Placer | 1 | 93 |
| | Shasta | 5 | 485 |
| | Siskiyou | 3 | 792 |
| | Trinity | 2 | 255 |
| | Yuba | 1 | 262 |
| | Total | **13** | **3,204** |
| **1996** | Butte | 2 | 1,456 |
| | Glenn | 1 | 340 |
| | Lassen | 2 | 425 |
| | Shasta | 6 | 681 |
| | Siskiyou | 4 | 587 |
| | Trinity | 1 | 155 |
| | Yuba | 1 | 20 |
| | Total | **17** | **3,664** |
| **1997** | Butte | 2 | 1,344 |
| | Glenn | 1 | 409 |
| | Shasta | 4 | 365 |
| | Siskiyou | 3 | 431 |
| | Trinity | 2 | 225 |
| | Yuba | 1 | 10 |
| | Total | **13** | **2,784** |
| **1998** | Butte | 3 | 1,399 |
| | Glenn | 1 | 188 |
| | Lassen | 1 | 140 |
| | Shasta | 2 | 446 |
| | Siskiyou | 5 | 991 |
| | Trinity | 1 | 92 |
| | Yuba | 2 | 2 |
| | Total | **15** | **3,258** |
| **1999** | Butte | 1 | 1,317 |
| | Glenn | 1 | 193 |
| | Plumas | 1 | 179 |
| | Shasta | 8 | 631 |
| | Siskiyou | 5 | 1,852 |
| | Trinity | 1 | 92 |
| | Yuba | 1 | 30 |
| | Total | **18** | **4,294** |

| Southern Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Notices** | **Acres** |
| **1991** | | | |
| | Total | **0** | **0** |
| **1992** | | | |
| | Total | **0** | **0** |
| **1993** | El Dorado | 1 | 164 |
| | Total | **1** | **164** |
| **1994** | Tulare | 1 | 160 |
| | Total | **1** | **160** |
| **1995** | El Dorado | 2 | 538 |
| | Tuolumne | 1 | 420 |
| | Total | **3** | **958** |
| **1996** | Calaveras | 2 | 149 |
| | El Dorado | 1 | 510 |
| | Mariposa | 1 | 150 |
| | Total | **4** | **809** |
| **1997** | Fresno | 1 | 360 |
| | Mariposa | 1 | 615 |
| | Tulare | 1 | 160 |
| | Tuolumne | 2 | 90 |
| | Total | **5** | **1,225** |
| **1998** | Calaveras | 1 | 250 |
| | El Dorado | 1 | 60 |
| | Madera | 1 | 130 |
| | Mariposa | 4 | 1,091 |
| | Total | **7** | **1,531** |
| **1999** | Calaveras | 3 | 699 |
| | El Dorado | 2 | 1,199 |
| | Tuolumne | 7 | 4,415 |
| | Total | **12** | **6,313** |

**Table A4 (continued). NTMP Notice Of Timber Operations By Year Submitted.**

| Coast Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Notices** | **Acres** |
| **2000** | Humboldt | 65 | 13,492 |
| | Lake | 2 | 224 |
| | Mendocino | 63 | 6,956 |
| | San Mateo | 1 | 90 |
| | Santa Clara | 1 | 225 |
| | Santa Cruz | 6 | 475 |
| | Sonoma | 3 | 108 |
| | Trinity | 2 | 86 |
| | Total | **143** | **21,656** |
| **2001** | Humboldt | 52 | 15,490 |
| | Mendocino | 31 | 3,409 |
| | Napa | 1 | 90 |
| | Santa Clara | 1 | 250 |
| | Santa Cruz | 6 | 368 |
| | Sonoma | 4 | 287 |
| | Trinity | 3 | 368 |
| | Total | **98** | **20,262** |
| **2002** | Humboldt | 38 | 9,897 |
| | Lake | 3 | 200 |
| | Mendocino | 25 | 2,748 |
| | Napa | 1 | 90 |
| | Santa Clara | 1 | 225 |
| | Santa Cruz | 1 | 254 |
| | Sonoma | 2 | 215 |
| | Trinity | 2 | 546 |
| | Total | **73** | **14,175** |

| Northern Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Notices** | **Acres** |
| **2000** | Butte | 2 | 420 |
| | Glenn | 1 | 476 |
| | Lassen | 1 | 200 |
| | Plumas | 2 | 260 |
| | Shasta | 7 | 1,294 |
| | Siskiyou | 2 | 216 |
| | Yuba | 2 | 24 |
| | Total | **17** | **2,890** |
| **2001** | Butte | 2 | 107 |
| | Glenn | 1 | 195 |
| | Shasta | 5 | 1,029 |
| | Siskiyou | 4 | 396 |
| | Yuba | 2 | 504 |
| | Total | **14** | **2,231** |
| **2002** | Butte | 5 | 508 |
| | Lassen | 1 | 102 |
| | Nevada | 1 | 68 |
| | Shasta | 5 | 1,913 |
| | Siskiyou | 4 | 433 |
| | Tehama | 4 | 559 |
| | Trinity | 2 | 101 |
| | Yuba | 3 | 150 |
| | Total | **25** | **3,834** |

| Southern Forest District | | | |
|---|---|---|---|
| **Year** | **County** | **Notices** | **Acres** |
| **2000** | Amador | 2 | 320 |
| | El Dorado | 2 | 635 |
| | Fresno | 2 | 720 |
| | Mariposa | 1 | 615 |
| | Tuolumne | 3 | 1,232 |
| | Total | **10** | **3,522** |
| **2001** | Calaveras | 3 | 2,682 |
| | El Dorado | 2 | 344 |
| | Fresno | 1 | 360 |
| | Madera | 2 | 200 |
| | Mariposa | 2 | 1,806 |
| | Tuolumne | 5 | 2,743 |
| | Total | **15** | **8,135** |
| **2002** | Amador | 2 | 131 |
| | Calaveras | 4 | 2,876 |
| | El Dorado | 5 | 1,139 |
| | Fresno | 1 | 360 |
| | Madera | 1 | 40 |
| | Mariposa | 2 | 1,115 |
| | Tuolumne | 8 | 4,138 |
| | Total | **23** | **9,799** |

# APPENDIX B

## Forest Practice Act and Rule Provisions Governing NTMPs

This appendix lists the requirements and definitions for uneven-aged management and sustained yield as provided in the Forest Practice Act (FPA) and Forest Practice Rules (FPR).

### Uneven-aged Management

Regulatory Statute – The requirement to utilize uneven-aged management is found in the PRC:

> §4593.2 (Definitions). Notwithstanding Section 4521, unless the context otherwise requires, the following definitions govern construction of this article:
>
> (e) "Nonindustrial timber management plan" means a management plan for nonindustrial timberlands with an objective of an uneven-aged managed timber stand and sustained yield for each parcel or group of contiguous parcels meeting the requirements of Section 4593.3.

Uneven-aged management is defined in the FPA and in the definitions sections of the FPRs as follows:

> Unevenaged management means the management of a specific forest, with the goal of establishing a well-stocked stand of various age classes and which permits the periodic harvest of individual or small groups of trees to realize the yield and continually establish a new crop (PRC §4593.2(c) and 14 CCR §895.1).

Further, the silvicultural methods section of the FPRs defines uneven-aged management as follows;

> Unevenaged management is utilized to establish and maintain an unevenaged stand structure. Unevenaged management attributes include the establishment and/or maintenance of a multi-aged balanced stand structure, promotion of growth on leave trees throughout a broad range of diameter classes, and encouragement of natural reproduction (14 CCR §913.2 [933.2, 953.2]).

**Sustained Yield**

Regulatory Statute – The "Option" B and C standards:

Sustained yield is defined in the FPA and the FPRs as follows:

> "Sustained yield" means the yield of commercial wood that an area of commercial timberland can produce continuously at a given intensity of management consistent with required environmental protection and which is professionally planned to achieve over time a balance between growth and removal (PRC §4593.2(d) and 14 CCR §895.1).

The primary regulations dealing with the NTMP sustained yield requirement are found in 14 CCR §913.11[933.11, 953.11] (b) or (c), and in 14 CCR §1090.5 (g) through (j). In these Rules, MSP of high quality timber products is achieved by meeting the requirements of either 14 CCR §913.11 [933.11, 953.11] (b) or (c), which are as follows:

> (b) Where a SYP or NTMP is submitted for an ownership, an approved SYP or NTMP achieves MSP by providing sustainable harvest yields established by the landowner which will support the production level of those high quality timber products the landowner selects while at the same time:
>
> (1) meeting minimal stocking and basal area standards for the selected silvicultural methods as provided in these rules as described;
> (2) protecting the soil, air, fish and wildlife, water resources and any other public trust resources;
> (3) giving consideration to recreation, range and forage, regional economic vitality, employment and aesthetic enjoyment;

(4) balancing growth and harvest over time. The projected inventory resulting from harvesting over time shall be capable of sustaining the average annual yield achieved during the last decade of the planning horizon. The average annual projected yield over any rolling 10-year period, or over appropriately longer time periods for ownerships which project harvesting at intervals less frequently than once every ten years, shall not exceed the projected long-term sustained yield. A THP which relies upon and is found to be consistent with an approved SYP shall be deemed adequate to achieve MSP.

(c) In a THP, or NTMP, MSP is achieved by:

(2) For unevenaged management, complying with the seed tree retention standards pursuant to §913.1(c)(1)(A), meeting minimum stocking and basal area standards for the selected silvicultural methods as contained in these rules only with group A species, and protecting the soil, air, fish and wildlife, water resources and other public trust resources through the application of these rules.

Coupled with either an Option B or C demonstration are additional requirements found in 14 CCR §1090.5 [Contents of NTMP] (g) through (j) that specifies the following:

(g) A description by management unit(s) of the timber stand characteristics including species composition, age classes, projected growth, present stocking level, present volume per acre, size class distribution, stand management history, and potential pest or protection problems. The description shall provide the basis for the information provided.

(h) A description by management unit(s) of the proposed management objectives, including a discussion of projected timber volumes and sizes available for timber harvesting.

(i) A description by management unit(s) of proposed activities to achieve the management objectives. This must include: 1) projected frequencies of harvest, 2) silvicultural prescriptions for harvesting, 3) type of yarding systems to be used for each area, 4) anticipated interim management activities which may result in rule compliance questions (i.e. erosion control maintenance).

(j) The period of time over which growth will be balanced with harvest.